PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

B. Tech (CSE) – 5th Semester – Aug-Dec 2023

UE21CS341A - Software Engineering

Synopsis / Project Proposal

RECIPE RECOMMENDATION SYSTEM

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Proposed Project Description

The Recipe Recommendation System is a personalised, dynamic platform that leverages machine learning algorithms and user preferences to suggest the top 10 recipes you can make based on the ingredients you have in your pantry. Aimed at a diverse range of users—from aspiring home cooks to fitness enthusiasts to individuals with specific dietary needs—this system strives to eliminate the dilemma of "What should I cook today?" by offering tailored culinary suggestions. Whether you're craving a specific cuisine or have certain health or allergy considerations, the system will curate recipes that align with your needs and tastes.

Functional Features

1. Customizable Pantry : Users can create, edit, and update their digital pantry with ingredients they currently have.
2. Personalised Recommendations : Once the pantry is set, the system offers a list of the top 10 recipes that can be made from those ingredients.
3. Culinary Preferences : Users can set preferences such as cuisine type and dietary health requirements (e.g., vegetarian, gluten-free, low-sodium).
4. Recipe Ratings : Users have the option to rate recipes they've tried, providing valuable feedback for both themselves and other users.
5. Bookmark Favourites : Users can bookmark their favourite recipes for easy access in the future.
6. Recipe Details : Detailed recipe with ingredients, step-by-step instructions, and nutritional information.

Plan of Work and Product Ownership

Data Collection and Cleaning and Labelling : Shubha Masti

- Develop a data cleaning and preprocessing pipeline to prepare the recipe dataset.
- Create labels for cuisine, dietary requirements, etc
- Use filters to integrate for any filters by user

Database Setup : Shriansh Mohanty

- Design and define the database schema (for pantry, recipes, and user data)
- Develop the data retrieval and display functions to fetch recipes from the database.
- Populate the database with the cleaned and labelled recipe data.
- Database connection interface
- Testing Backend

Frontend Design and Development : Shreya Sridhar

- Design the landing page, user profile, and pantry management interfaces on the frontend, ensuring a user-friendly experience.
- Implement the pantry management feature on the frontend, allowing users to add and edit ingredients.

Frontend Development : Shyam Krishna

- Design recipe rating and history features
- Implement recipe rating and history features on the frontend, allowing users to rate and save recipes.

Frontend and Connection Integration : Shreya Sridhar, Shyam Krishna, Shriansh Mohanty

- Integrate the connection layer with the frontend, enabling users to retrieve appropriate recipes and view their history.

Testing and Debugging : All

- Testing fully integrated software

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PROJECT TITLE - RECIPE RECOMMENDATION SYSTEM

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION
0	**Team formation/Ideation**				
0.1	Team Formation	All	11-Sep	11-Sep	1
0.2	Problem Selection	All	12-Sep	12-Sep	1
0.3	Project Approval	All	13-Sep	13-Sep	1
1	**Feasibility Analysis**				
1.1	Requirements Meetings	All	14-Sep	15-Sep	2
1.2	Customer Survey	All	14-Sep	15-Sep	2
2	**Requirements Engineering**				
2.1	Requirements draw-up based on Survey	All	18-Sep	23-Sep	6
2.1.1	SRS delivered	All	25-Sep	25-Sep	1
3	**Architecture & Design**				
3.1	Database Design	Shriansh	27-Sep	29-Sep	3
3.1.1	DB ER diagram and Schema	Shriansh	29-Sep	29-Sep	1
3.1.2	Obtaining seed dataset	Shubha	2-Oct	2-Oct	1
3.2	Software Design	All	2-Oct	3-Oct	2
3.3	Interface Design (wireframe)	Shreya, Shyam	3-Oct	3-Oct	1
3.4	Design finished	All	4-Oct	4-Oct	1
4	**Implementation**				
4.1	Frontend pages based on design	Shreya	5-Oct	10-Oct	6
4.2	Creating application pipeline using flask	Shyam, Shreya	9-Oct	13-Oct	5
4.3	Integration of front end and backend	All	16-Oct	20-Oct	5
5	**Testing**				
5.1	Obtaining more dataset	Shubha	23-Oct	24-Oct	2
5.2	Full stack testing	Shriansh	24-Oct	25-Oct	2
5.3	Debugging	All	26-Oct	30-Oct	5
5.4	Quality Deliverables	All	31-Oct	31-Oct	1
5.5	Beta testing/Customer review	All	1-Nov	2-Nov	2
5.6	Project Performance	All	2-Nov	3-Nov	2
6	**Operation & Maintenance**				
6.1	Deployment on server	All	6-Nov	7-Nov	2
6.2	End user experience collection	All	8-Nov	undefined